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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,081	02/01/2006	Tomohisa Tenra	MAT-8798US	2252
53473	7590	08/28/2008		
RATNERPRESTIA			EXAMINER	
P.O. BOX 980			THOMAS, ALEXANDER S	
VALLEY FORGE, PA 19482				
			ART UNIT	PAPER NUMBER
			1794	
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			08/28/2008	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/595,081

**Applicant(s)**

TENRA, TOMOHISA

**Examiner**

Alexander Thomas

**Art Unit**

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3 and 5-12 is/are pending in the application.
- 4a) Of the above claim(s) 11 and 12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S5108)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

#### **DETAILED ACTION**

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submissions filed on 8/4/08 and 8/19/08 have been entered.
2. Claims 1-3 and 5-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The term "distortion point" has not been defined in the disclosure in a manner which would allow one of ordinary skill in the art to understand precisely what actual temperatures are contemplated by this term. The only disclosure directed to "distortion point" is on page 6, lines 8-12 which relates to a single type of glass namely C glass. However, this disclosure does not provide enough information which would allow one of ordinary skill in the art to determine the distortion temperature of any type of glass (which is instantly claimed) and this disclosure does not explain how one would determine the distortion point of a glass fiber material or structurally what constitutes a distortion point of a glass fiber.

***Claim Rejections - 35 USC § 102***

3. Claims 1-3, 5-7 and 10 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Jung et al 2002/0167105. The reference discloses a vacuum heat insulator comprising a core of glass wool that contains no binder and is encased in an envelope; see [0010]. The core is pressurized at a temperature higher than the strain temperature of the glass [0020] and may have a final density within the claimed range [0009]. This disclosure is considered to meet the instantly claimed temperature requirements since the temperature in the reference is high enough to allow some deformation of the fibers [0015] but not high enough to excessively break the fibers [0020]. Furthermore, the temperature is a process limitation and it is the final products that must be compared. The final product in the reference meets the instant claims since it is comprised of a core of glass wool that was pressurized at a high temperature to form a product with a density within the claimed ranges. Regarding the entanglement of the fibers, there will inherently be some entanglement of the fibers in view of the pressure applied during forming of the core. In any event, it would have been obvious to one of ordinary skill in the art to adjust the temperature in forming the core in the reference to any specific amount in order to achieve optimum structure properties for a particular end use. Concerning claims 5 and 6, the reference's core is considered to inherently possess these properties in view of its disclosed density, lack of binder, being made from the same material, and the similar pressure used to form the core. In any event, it would have been obvious to one of

ordinary skill in the art to adjust pressure, temperature, etc. in the process of the reference to provide optimum physical properties in the product for a particular end use.

4. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jung et al 2002/0167105. The reference discloses a vacuum heat insulator comprising a core of glass wool that contains no binder and is encased in an envelope; see [0010]. The core is pressurized at a temperature higher than the strain temperature of the glass [0020] and may have a final density within the claimed range [0009]. This disclosure is considered to meet the instantly claimed temperature requirements since the temperature in the reference is high enough to allow some deformation of the fibers [0015] but not high enough to excessively break the fibers [0020]. Furthermore, the temperature is a process limitation and it is the final products that must be compared. The final product in the reference meets the instant claims since it is comprised of a core of glass wool that was pressurized at a high temperature to produce a product having a density within the instantly claimed ranges. Regarding the entanglement of the fibers, there will inherently be some entanglement of the fibers in view of the pressure applied during forming of the core. In any event, it would have been obvious to one of ordinary skill in the art to adjust the temperature in forming the core in the reference to any specific amount in order to achieve optimum structure properties for a particular end use. The examiner takes official notice of the fact that sodium, an alkali metal, is a common ingredient of glass added to improve processing. It would have been obvious to one of ordinary skill in the art to use a glass formulation including an alkali metal to form the glass fibers in the product of the reference to provide improve processing of

the glass. It would also have been obvious to one of ordinary skill in the art to adjust the amount of alkali through routine experimentation to provide optimum physical properties for a particular end use.

5. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jung et al 2002/0167105. The reference discloses a vacuum heat insulator comprising a core of glass wool that contains no binder and is encased in an envelope; see [0010]. The core is pressurized at a temperature higher than the strain temperature of the glass [0020] and may have a final density within the claimed range [0009]. This disclosure is considered to meet the instantly claimed temperature requirements since the temperature in the reference is high enough to allow some deformation of the fibers [0015] but not high enough to excessively break the fibers [0020]. Furthermore, the temperature is a process limitation and it is the final products that must be compared. The final product in the reference meets the instant claims since it is comprised of a core of glass wool that was pressurized at a high temperature to produce a product having a density within the instantly claimed ranges. Regarding the entanglement of the fibers, there will inherently be some entanglement of the fibers in view of the pressure applied during forming of the core. In any event, it would have been obvious to one of ordinary skill in the art to adjust the temperature in forming the core in the reference to any specific amount in order to achieve optimum structure properties for a particular end use. The reference discloses the use of vacuum insulation panels for insulating refrigerators; see [0001]. It would have been obvious to one of ordinary skill in the art to

place the vacuum insulation panel of the primary reference on the walls of a refrigerator in order to insulate the refrigerator.

***Response to Arguments***

6. Applicant's arguments filed 8/4/08 have been fully considered but they are not persuasive. Applicant argues that Jung does not disclose processing temperatures which are lower than the distortion point as recited in claim 1. Initially it is noted that the term "distortion point" has not been defined in the disclosure in a manner which would allow one of ordinary skill in the art to understand precisely what actual temperatures are contemplated by this term; see the above rejection under 35 USC 112. Also, the instant claims are not directed to a range of temperatures as applicant's arguments imply, they are directed to one of two temperatures, namely "a temperature at which the glass fibers start to deform due to own weight of the glass fibers" and "a temperature at which the glass fibers become deformable due to vertical load in pressing and sectional shapes of the glass fibers do not significantly vary". In any event, Jung clearly discloses processing temperatures which would be below the distortion point of their glass fibers because it discloses temperatures which are 100 degrees C below the strain point of the glass fibers; see the example in [0023]. Therefore, Jung discloses processing temperatures below a distortion point of its glass fibers. Applicant further argues that processing temperatures which are lower than the distortion point produce unexpected results and relies on the declaration of Tenra to show these unexpected results. The Declaration of Tenra filed 8/4/08 has been considered but is not persuasive for showing unexpected results for several reasons. First, the showing in the declaration is not

commensurate in scope with the instant claims. The two instantly claimed temperatures, namely "a temperature at which the glass fibers start to deform due to own weight of the glass fibers" and "a temperature at which the glass fibers become deformable due to vertical load in pressing and sectional shapes of the glass fibers do not significantly vary", are not even mentioned in the declaration and there is nothing in the declaration that would support the argument that either of these two temperatures show unexpected results. Second, the experiments in the declaration do not include the pressure at which each core was molded. Thirdly, even if the instant claims were directed to a processing temperature of 440-520 degree C, which they are not, the results in the table of the declaration do not show unexpected results for this range of temperatures. One would have to run tests at slightly above 520 degrees and slightly below 440 degrees as well as at other temperatures above and below the range of 440-520 degree C to ascertain whether this range produces unexpected results. Furthermore, the results shown in the table only show what would be expected. They show higher heat conductivity at higher temperatures and poorer handling at lower temperatures. Higher heat conductivity at higher temperatures is expected because the fibers will soften more and compact more than lower temperatures resulting in a more dense panel, the more dense panel allowing heat to transfer easier. Likewise, poorer handling properties at lower processing temperatures are expected because lower processing temperatures will result less softening or strain reduction of the fibers which produces less compaction or lower density, i.e. a looser fiber panel with lower



conductivity. Therefore, the test results shown in the table of the declaration do not show unexpected results.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Thomas whose telephone number is 571-272-1502. The examiner can normally be reached on 6:30-4:00 M-THUR.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Alexander Thomas/  
Primary Examiner  
Art Unit 1794